

ABSTRACT

A gain equalizer in which a multichannel input light signal is split into its separate wavelength components by means of a dispersive element such as a grating, and the spatially separated wavelength components are passed through a linear array of variable optical attenuators based on liquid crystal phase elements which modulate the phase of part of the cross section of the light. The separate attenuated wavelength components are then recombined and output. The attenuation level of each variable optical attenuator is adjusted according to the output of the light as a function of its wavelength components, and in this way, the overall wavelength profile of the output light signal can be adjusted to any predefined form, whether a flattened spectral profile, as in gain equalization applications, or a spectral compensating profile.